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HEALTH

A JOURNAL DEVOTED TO HEALTHFUL LIVING

Edited by

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JIU-JITSU—THE JAPANESE SYSTEM OF PHYSICAL TRAINING.

Jiu-jitsu is the national system of physical training taught to youngsters in Japan and is peculiar to that country, the like of which is not seen or heard of, in any other part of the world. Jiu-Jitsu is not a sport in the sense baseball, golf and football are. It is a system of physical training which every young Japanese man must undergo. In Japan, Jiu-jitsu is a compulsory course of training for every soldier, sailor and policeman. After six weeks of instruction, it is said jiu-jitsu yields better results, in point of muscular strength, endurance and agility than the same amount of time spent in a gymnasium throughout a whole school year does. When the allied armies of the civilized powers marched against Pekin in the summer of 1900, it was discovered that the Japanese soldiers were first among all the troops in point of endurance, the Americans taking only the second rank. During the Russo-Japanese War, Japanese troops are said to have marched twenty-five miles a day through the most bitter weather; while fifteen miles a day would be considered a satisfactory average. "As Jiu-Jitsu is the only physical training that the Japanese soldier receives, it is evident that it is this system which gives him the greatest endurance to be found in the world."

The art is graphically described thus by Dr. Ito ("Good Health", February 1932)—"When an opponent attacks you, you do not resist him, we are taught, yield to him. Yield and then use his own strength for his undoing. If I were attacked, say from the rear, Jiu-Jitsu teaches me not to resist my assailant's force but to move my body in the same direction that his is moving and to use his own strength for giving his body impetus in dashing it on the

ground. I would use very little of my own strength. Instead, I would use my enemy's strength in overcoming him. That is the whole idea upon which the art of Jiu-Jitsu rests, and it has become the fundamental philosophy of the Japanese race. You remark our courtesy, our patience. We are practising as a living philosophy the idea which we have learned from Jiu-Jitsu. We conquer by yielding. Only a few occidentals have understood this Japanese philosophy well enough to interpret it. Your idea is different from ours. If you see something you want, you go and get it. We use subtler, gentler methods—but we attain our ends".

The system originated in Japan about 2500 years ago. It was confined at that time and until very recently only to a privileged class of men called 'Samuia', corresponding to our Kshatriyas and the Knights of Europe in the middle ages. "The women of the Samuia class took up this work also, so that no Japanese man could expect to be stronger than the women of his own rank, unless he happened to be larger than she". Now Jiu-Jitsu has become a national system of physical training and is regarded more as a health system than as 'a method of fighting without arms, using the bare hands and with them alone conquering the enemy.' It has been introduced in all schools and colleges for men and women. It is a compulsory subject and every boy has to study it and those who are not strong enough are given the choice between sword fighting and archery. Sword fighting is done with bamboo swords and is 'fine training in precision and quickness.' In archery, there is more of concentration and this probably accounts for the Japanese being the best scholars. The students are taught Jiu-Jitsu in class-rooms just as any other subjects are taught. But, there are mats on the floor, instead of desks in this room, this is all the equipment needed. The student attends the Jiu-Jitsu class for several hours each day. When a student attains some proficiency in the art, he is graduated and is given the distinction of the 'Black Belt'. 'The order of the 'Black Belt' is the students' first step. When he reaches that, he is distinguished, for only a small percentage of Jiu-Jitsu students are in the 'Black Belt' class'. The 'Black Belt' men are taught how to cause death by a single blow of the hand or by certain pressure. And, they are also taught how to restore to life one who has been killed by their 'Jiu-Jitsu tricks! This is evidently the reason why the 'Black Belt' men are asked to take a vow, when they are taken into this order not to reveal the secrets of the art to anyone else outside Japan. The vow is sacred and no member of the 'Black Belt' will ever break it. There are seven other courses above the 'Black Belt' which are reached only by a few.

Soon after the end of the lesson, the student is advised to go to the shower or the swimming pool for a bath. "The bath following exercise should be a cold one. It is best first of all to take a rapid spraying under the shower. This should be followed by a plunge and a short swim. After that, drying through the means of brisk towelling, is in order. Not all young people can endure the shock of the cold bath. In that case, the bath will have to be of the temperature demanded by the condition of the individual student".

In the frontispiece, we have given an illustration of a lady wrestling with and rescuing herself from the hands of her

opponent, by Jiu-Jitsuan method. Our own country can boast of yoga, surya-namascar and other ancient forms of exercises, which are the wonder and admiration of the world even to-day. Our yoga system as a means of physical and spiritual training is unsurpassed, and has no rival in ancient or modern times. There can be no better testimony of the efficacy and superiority of the yoga system of the Aryans, physically, mentally, morally, spiritually and economically, than what is described by Major F. Yeats Brown in the organ of 'Physical Culture.' He says:—"An amazing sense of "awareness" is liberated by Yoga exercises, rightly directed. No wonder, then, that the gurus keep such knowledge for those only whom they consider worthy to receive it. There must be harmonious development at all times; if the student progresses beyond the point where his physical powers are held in leash of the will, it is possible that a dangerous influence may be let loose upon the world. But given right teachers, the mental equipoise of yoga is such that nothing can disturb it. To many it has been a revelation similar to that vouchsafed to the mystic in his ecstasy.

"Personally, I dislike new religions: the one I was born in satisfies me. Since I have studied yoga, however, I have understood Christianity better. But whether yoga exercises can help us to heaven or not, I am sure they can give us nervous control and mental peace here on earth. That is something valuable in these days when our hospitals are full of neurotics and mental deficients owing to the increasing strain of modern life.

"We are practical about material things. We study any apparatus that is going to move or amuse us. But of the powers within us we know less than of the engine of our motor car.

"In India these powers have been studied along lines that our Western clinics are only just beginning to be aware of. India taught the West arithmetic and invented algebra in days gone by. To-day her yoga philosophy has its contribution to make in opening up new paths to peace".

But alas! those systems have fallen into disuse and as their adherents become thinner and thinner, they become dead arts. It must be the duty of the Government, therefore, to revive and resuscitate these arts and also introduce Jiu-Jitsu and other systems from other countries, which have been sufficiently tested for ages and found cheap and efficient, so that India may also grow healthy, strong and enduring and regain its former rank, as A_1 nation in the world.

MAN'S USE OF AIR.

A man breathes 16 to 18 times every minute :

And he breathes 26,000 times a day without a knowledge and without effort in normal circumstances.

With each respiration are concerned more than hundred muscles of the body.

Each inhalation requires about 25 to 30 cubic inches of air :

that is 32 to 37 pounds of air per day :

about 7 times the weight of food and water consumed per day.

The air inhaled passes over 15 square feet of lung surface,—

mainly used in the purification of blood.

About 160 cubic inches of air constantly remain in the lungs.

And 25 to 30 cubic inches are breathed out.

Wont you have it as pure as possible?

EFFECTS OF EXCESSIVE JOY

By

Dr. Edward Podolsky, M.D.

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The effects of extravagant joy are quite often as disastrous to the individual as are those of great grief or sorrow; in fact, in certain instances, the effects are even more pronounced. Because such instances have not always been recorded the assumption is often made that they are of rare occurrence. Yet this is not true, for many cases have occurred where the sudden advent of great joy has proved of dire consequence to the person involved.

The Greeks record the fact that Sophocles at an advanced age, composed a tragedy which was so successful that the old dramatist was so profoundly made happy that he died. Chilon, of Lacedemon, likewise, it is said, died of joy while embracing his son, who had borne away the prize at the Olympic games. Aristotle tells us of Polycrita, a lady of the nobility in ancient Greece, who suddenly expired in raptures of joy at some unexpected good fortune. Livy related the case of a certain old woman who fell into a transport of grief on hearing of her son's death in a battle at Cannas; but soon this was proved false, and the woman was so overcome with joy that she died.

In more recent times, it is recorded that Juventius Thalma, to whom a triumph was decreed for subjugating Corsica, fell dead at the foot of the altar at which he was offering up his thanksgiving. Pope Leo X was so overcome with joy at the triumph of his party against the French that he expired. Dr. Good, in his " History of Medicine," cites the case of a clergyman who, at a time when his income was limited, received the unexpected tidings that some property had been bequeathed him. "He arrived in London in great agitation; and entering his own door, dropped down in a fit of apoplexy, from which he never entirely recovered."

That extreme joy kills is not doubted and, strange as it may seem, extreme and sudden happiness is to be shunned like hate and insane fury. Extreme emotion of any kind seems to set in motion the same mechanism that finally leads to the demise of the individual. There seems to be, primarily, a power excitation of the heart. Haller in his " Psychology " says that " excessive and sudden joy kills, by increasing the motion of the blood, and exciting a true apoplexy." This is undoubtedly the case in many instances. Any intense and sudden stimulus brings on its bad effects by exactly the same route. There is often a congestion of the various organs; oftentimes rupture of vessels and hæmorrhage. Dr. William Cooke, in a lecture to the Hunterian Society in London, 1839, summed this phase up in the following paragraph: " Under the influence of excessive joy, there is often indicated a congestion of the liver, of the lungs, and of the mucous membranes......hæmorrhage from congestion as well as from rupture of vessels, and sometimes, even inflammation. Under the exciting emotion there takes place a dilatation of arteries attended with

increased vascular power and energy of function."

Perhaps the most important consideration of the effects of extreme joy is on the endocrine organs. There are numerous instances where fright has been the direct cause of an onset of exophthalmic goitre. Excessive joy has often been the cause of the same condition. Intense stimulation such as is occasioned by the latter emotion may very conceivably bring on a state of endocrine hyperactivity. Perhaps the most important glands affected by extreme emotion are the adrenals; Cannon has shown that these organs are affected with an increase in their secretory power. As is well known, adrenalin raises the blood pressure; it dilates and increases the vascular power of certain organs. With an overabundance of adrenalin in the system occurs simultaneously an increase of power.

Apoplexy is the most common condition brought on by extreme joy. In such cases it has been found that the blood pressure is raised from 20 to 30 mm., and if such excitement occurs in patients having an increased blood pressure, there is often a systolic blow in the second intercostal space at the right of the sternum.

The influence of excessive joy has always seemed to be a very interesting problem, and it is rather unfortunate that more work on this subject has not been done. A series of necropsies on patients who have died from excessive joy would perhaps reveal much that would enable us to understand the mechanism of death in this instance as perhaps also in the other cases where excess emotion brings on death.

HOW TO ENJOY PERFECT HEALTH.

By

Dr. P. T. Patel M.D. (Lond.), M.R.C.P. (Lond). *Bombay.*

When I was asked to contribute something by the Editor of the "HEALTH" Magazine, I had so many ideas to improve the health of our people that I thought it would be difficult to present them all in a small article. But still as a great deal of progress is necessary as regards health and sanitary principles of our people, I acceded to his request and present the following principles how to keep generally good health, which, if observed, would be beneficial to all the people to some extent.

Healthy heritage, fresh air, nutritious diet, physical exercises, and cleanliness are the essentials for enjoying perfect health.

In spite of having all these factors if one happens to look at the physical constitution and mode of living of our rich and middle classes, most of them would be classed as having third class constitutions according to the modern scientific classification of healthy races.

The following few points must be attended to in their right sense if one wants to attain a first rate energy with good physique. Many persons inherit good health and specially people residing in villages enjoy good health and long life on account of fresh air and simple

nourishing food, if they are not addicted to any bad habits and vices.

When they come to live in cities, they become very delicate in health. Social customs like early marriages, want of check on birth rate and other factors etc. have immediate and remote effects on their health; subsequently males and females suffer in health, their progeny also have short lives and they become deteriorated to such an extent that an average Indian life becomes of 25 years' duration, while people in Europe and America have an average duration of life of 50 years. In addition to that the birth and death rates in these countries are about twelve per thousand, while we have got double the number i.e. 24 in our country. This clearly shows that we lose 50% of our energy in producing the population which perish immediately after birth or sometime after.

2. As stated above we get good houses to live in and good climate in villages and suburbs. In spite of this, many persons spoil their health by staying in overcrowded and insanitary areas in towns and cities, where a great deal of flies and mosquitoes breed in heaps in refuse and collections of rain water, which cause and spread outbreaks of several diseases and no steps are taken for their prevention; so if some knowledge of personal hygiene is given along with the primary education in the schools, people will understand the advantages of fresh air and cleanliness in their dwellings.

In India every year about a million persons die of Malarial fever and about ten millions of the people suffer from the same disease and crores of lives and rupees are wasted due to this state of affairs. This fever is caused by a simple mosquito which breeds in stagnant water and transmits the germs from one person to another by biting. If people take care to keep their houses and surroundings dry and free from mosquitoes (by treating ditches, cesspools and other water collections with kerosine oil etc) and those who can afford would use mosquito curtains, they can very well check the spread of this disease and minimise its evil effects becoming more healthy and prosperous.

3. *Nourishing Diet*:—In order to maintain good health it is necessary to take simple nourishing diet rich in vitamins; but people are habituated to eat very hot and over-cooked food with all sorts of spices and other hot things as chillies etc. instead of taking simple nourishing food as milk, fruits, vegetables etc. They like to have the taste of salt and spices instead of natural taste of food articles themselves, and they also destroy the vitamins by overcooking which are really very useful in body building and resisting the infectious and other diseases.

If well cleaned food and milk, the vitamins of which are not destroyed by overcooking are taken (only boiling up to froth once helps in destroying the germs of diarrhoea, dysentery, cholera, typhoid fever, sprue etc.) they help us in preventing the bone diseases and consumption.

4. In order to keep an up-to-date healthy body it is necessary to give exercise to all parts of the body by physical jerks, baths etc. Every person should practise these exercises for 10 or 15 minutes in the early morning in order to keep himself physically fit and healthy. He should drink plenty of cold water in the morning to remove constipation. He should take bath with hot water on the body and cold water on the head with a good massage

of the body while bathing so as to improve the circulation of the skin and prevent colds.

If all these principles of diet, hygiene and physical exercises are put into practice and taught in the school and

Lord Sri Krishna playing with His Flute and dancing to its tune, with His Comrades —a healthy form of exercise for the lungs and muscles.

if such education is spread to the public by such articles and pamphlets amongst the masses, I am sure that in spite of the poverty of the country, India will compete with other countries as regards physical constitution and health of her people.

TOBACCO SMOKING.

BY

DR. R. K. PILLAI, F. P. A., (LONDON) *Nagercoil.*

There has been an appalling increase in the percentage of tobacco users during the last few decades in spite of active crusade against such a bad practice. It is one of the perceptible evils of the modern age. People use tobacco for smoking in the form of cigars, cigarettes and smoking mixture ; for chewing with or without betel leaves ; while some others use the leaves in powdered form as snuff. At first just for the fun of it they take to it, and later on they become so habituated to its use that they cannot discontinue it even if they wanted to do so.

Though very few causes are adduced for its use very many reasons are advanced to deprecate its popularity. Scientists have detected in tobacco a poison known as *nicotine.* And it has been estimated that 100 ozs. of dried tobacco contains 2 ozs. of that deadly poison which is much more deadly than Arsenic. The use of tobacco has a bad effect directly or indirectly on the vital organs of the body, on mind and intellect and its effect on the character of an individual is also of vital importance. To what extent one is affected by nicotine depends upon the rapidity of combustion, the age of the individual and the amount of poison taken in through smoking. The quantity of poison taken in varies with the thickness of cigar or cigarette smoked, the dampness and tightness of packing. Smoking inside a room is found to be more harmful than smoking in open air.

The physical effects of tobacco poison on an adult below twenty-five years of age are greater and more harmful than on one past that age. Experiments, have shown that its effect is noticeable in an abnormal heart action. The pulse rate during the period of smoking increases especially in a weak person. There is further an increase in the systolic and diastolic blood pressure which is maintained throughout the smoking period.

It results especially in an excessive smoker, in what is generally termed as a "Tobacco Heart" or a "Soldier's Heart" It is concluded that although excessive smoking is not the essential cause in most cases of soldier's heart, it is an important contributory factor to it. Tobacco even in moderate quantities seems to lower the efficiency of the heart under pressure.

The smoke of tobacco taken in contains carbon mon-oxide which tend to absorb the oxygen of the respiratory system resulting in the composition of poisonous gases. The bad effect of tobacco on the human body is not so much from the nicotine as from the carbon monoxide contained in the smoke which interferes with the absorption of oxygen by the blood vessels and muscles of the body. An excessive tobacco smoker gets out of breath more quickly while people less guilty of cigarette smoking have greater endurance power and less panting.

The fact that tobacco causes deleterious effects upon the body is shown in the custom of coaches discouraging college athletes using tobacco. And generally athletes who wish to excel in sports do not use tobacco in any form

as its use results in a distinct loss in efficiency.

Tobacco smoke has an irritating action on the conjunctivæ particularly when smoking is done indoors while reading. The smoke will curve about the face and enter the eyes causing great irritation and lowering of vision. At times it causes partial blindness due to toxic amblyopia. In smokers the common cause of cancer of the lips, tongue and throat is said to be tobacco poison. It blackens the teeth, irritates the salivary glands and much saliva is secreted and wasted by spitting. It spoils the breath and affects the sense organs of smell and vision. And it weakens the nervous system resulting in sleeplessness and depression of spirits.

Smoking as already pointed out has a benumbing influence on brain and nerve cells. And women are more easily affected than men as they possess a more delicately adjusted nervous system. Its effect on the growing youth is more detrimental. His growth is retarded, he becomes mentally dull, his heart is made irritable and his stomach is diseased. But on a well developed body its effect may not be so harmful.

Tobacco to the lay mind presents more a moral question than physical. The boy who takes to smoking at first smokes secretly for fear of being seen by the parents or elders. He very often steals or lies in order to get a smoke. And when once it becomes a habit he is slave to it. Gradually the boy tends to increase the amount of tobacco he used formerly and his will is not strong enough to reduce it to a minimum.

Here more significant in effect is the secret and hidden character of the act that tends to develop destructive tendencies in personality, showing especially in the loss of confidence, lack of self-expression, and even fear. Such secret practice results in distinct personal loss which reflects on the general health and well being of the body.

ANTIMALARIAL MEASURES IN NOWGONG TOWN, ASSAM.

By

Dr. J. Roy, *Urban Health Officer, Nowgong, Assam.*

Nowgong is a small beautiful healthy district town with a population of 10,433 (Census 1931). Its area is 2.21 square miles, but the number of roads in it in comparison with other towns of Assam is rather too many. It has 27 miles road mileage. The water supply of the town is obtained from wells and tube-wells. Tube-wells work very successfully in this town and almost every house has a tube-well of its own. A large number of the people of Mymensingh, specially the Mohamodans have colonised in the rural areas of the district. The rural areas are not so healthy as the urban area. During the the last monsoon, July and August 1931, there was a heavy flood in some parts of the rural areas which compelled the Mymensingh people to temporarily take shelter in the town which was also inundated in some parts. During their influx, the town became overcrowded, insanitary and unusually infested with mosquitoes, and an epidemic of malaria broke out. The health of the town

became so much affected that most of the members of almost every family were bed-ridden for days together with malaria. Our sympathetic Civil Surgeon Dr. H. Lyngdoh, M.B.E., of Nowgong, took an active interest in the matter and, under his initiative, a very simple and cheap antimalarial operation was undertaken in a quiet and practical way on a very small scale. Malaria survey and spleen census were done. Innumerable anopheles mosquitoes and their larvae were found in the collections of waters in the town. The Municipality with its small purse and in these days of economic-depression gave hearty assistance and the public too co-operated in the work with right earnest. Under the guidance of the Civil Surgeon and under his instructions that " No mosquito, no malaria " the operations were started as follows, and the results were beyond expectations.

1. Notices were issued and served to the inhabitants for clearing all rank vegetations (jungles) and these were cut which afforded no shelter to the mosquitoes.

2. The Municipal drains in the town were cleared.

3. Kerosine was sprayed to destroy mosquitoes and their larvae in their breeding places, in every collection of water such as drains, cesspools, water-logged areas, ponds, pits, ditches etc.

4. Small drains and pits attached to the wells and tubewells to lead waters in the private houses even, were temporarily filled up.

5. All tubs, broken tins, broken bottles, receptacles, and other containers which contained rain-waters and afforded facilities for mosquitoes to breed were removed from the yards of every house and none left concealed even in the back yards. Those that could not be removed, were temporarily closed with covers.

6. In the public and private well-waters, where mosquito larvaes were found, they were removed by nets and the waters were purified by disinfectants-lime, pot. permanganas and electrolytic chlorine according to the necessity.

7. Stringent measures were taken upon conservancy system so that sweepers could not leave any filths to be accumulated for breeding and shelter of mosquitoes.

8. Instructions were given to inhabitants in the recognition of mosquito larvae and the methods of destroying them.

9. Endeavours were made to kill adult mosquitoes in the houses, out-houses and stables by fumigations.

10. Curative and prophylactic quinine were taken by the inhabitants in the affected quarters.

11. The patients both in the hospital and in out door quarters were treated by the kind hearted doctors under instructions of the Civil Surgeon.

12. Under advice, even the poor people used curtains against the bites of mosquitoes.

All these measures were taken here with keen interest and the public co-operated in it. It is astonishing that, after two months of rigid operations on this line malaria was to a great extent banished, and almost no mosquitoes were seen breeding anywhere.

My idea is not to give a lucid picture of Antimalarial works to my brother colleagues and countrymen but it is only to show how at a very small cost and with a very small staff, antimalarial campaign in a small area can be carried on most efficiently in a very simple way if the authorities and the public co-operate in the work.

SOME OBSERVATIONS ON PREVENTION OF DISEASE AND PROMOTION OF HEALTH.

By

M. C. SENATHIRAJAH,

Sanitary Inspector, Trincomalle, Ceylon.

Disease and sickness are caused by germs entering the body in many ways:—In the air that is breathed, the food that is eaten, the water that is drunk, by the bites of insects, and through the skin.

(1). The air of houses is best kept purified by keeping the doors and windows open, so that fresh air may come in from outside. Pure air is absolutely necessary for healthy life, and perfect health can only be maintained when, in addition to other requirements, there is an abundant supply of pure air. Health and disease are in direct proportiou to the purity or otherwise of the air, increase in the amount of ill-health being largely due to impurities of the air. The chief sources of impurity of the air are the following:—Products of respiration, combustion, decomposition, dust, and bacteria. The chief disease transmitted by air is tuberculosis.

(2). The food may be defined as anything that when taken into the body is able either to build up the body or produce heat or energy; and therefore it should be wholesome and well cooked. It should also be seen that after cooking, dirt and dust do not get into it, and that flies do not settle on it as flies often carry germs on their feet from filth to food.

(3) Clean water is a great human need; it is required both internally and externally to keep the body clean and healthy. It is mainly used as a solvent and diluent in the human economy, but for these purposes only a small quantity would suffice. It is required for (1) domestic use:—(*a*) as food for building the tissues of the body, maintaining the fluidity of the blood, and helping in the excretion of waste matters. (b). Cooking and washing, (c). Personal cleanliness. (2) Flushing of drains and trade premises. (3) Washing of carriages and stables for horses and cattle.

A liberal and pure supply of water is of primary sanitary importance. An insufficient or impure supply would necessarily lead to detoriation of health. From the hygienic point of view water is either pure or impure. Hygienically pure water is one which does not contain any foreign matter injurious to health. Impure water is that which is unfit for drinking, or domestic purposes.

Sources of water:—Water as it occurs in nature may be divided into rain water, spring, ground water, river, lakes, tanks. Each of these natural waters varies somewhat according to the locality from which it is derived, though in a general way all these natural waters possess characteristics which are common to all waters of that particular class. Of these, water supply from wells are mostly used in towns and urban areas, and particular care should be taken to use water from protected wells. By this it is meant an ideal well free from pollution, which conforms to the following sanitary requirements:—(a) An ideal well should be sunk in a good soil having good surroundings, free

from cess pools, privies, and other collections of filth near about. Its walls should always be lined upto water level with some impervious material (e.g. good cement) and the water should only come from the bottom. (b) The area surrounding the mouth of the well to about 5 feet all round should be made impermeable so as to convert into a masonary platform with a proper slope, thoroughly water-tight. The mouth of the well should be protected by a parapet two or three feet high, having a round or sharp edge so as to make it unsuitable for crows and other birds to sit and pollute. (c) The top of every well should have a suitable covering, so to prevent leaves, other refuse, and insects from falling into it. (d) The well should be fitted with either a pump, pulley, or a special bucket and chain and no other vessel should be used for drawing up the water. The positive causes of an epidemic of the parasitic diseases such as cholera, dysentery, diarrhoea, enteric fever, tuberculosis, and various other entozoal diseases due to worms are always traced to polluted water supply direct and indirect, and under the circumstances if no pure water is available other than in tanks, lakes and rivers, the water from such supply should be always boiled before use.

Heat will kill all disease germs; therefore the best way to purify water is to boil it and then cool it and keep it well covered to prevent dust and flies from getting into it.

(4) Insects play an important part in the transmission of diseases. Malaria, enteric fever, plague, filariasis or elephantiasis, and a host of other diseases are caused through the agency of insects. The fact that insects are small animals does not mean that they are of smaller importance. What they lack in individual size, they make up in numbers. Their activities are many sided and most of the diseases they cause are of a very deadly nature. The methods involved are mechanical and biological.

Mechanical: —The insect carries the germs in the body and transmits the disease to man, e.g. enteric, cholera, dysentery, phthisis, etc.

Biological:—The germ undergoes a certain development in the insects and further in man, i.e. the germ requires two separate sources in order to continue its existence and as a general rule we find that such germs can only develop in one or two particular kinds of insects. Mosquito and the transmission of malaria gives an example of the biological method of germs. The following is a list of insects and the diseases they are *known to transfer*:—(*a*) *Fleas.* It has been definitely proved that plague is conveyed by fleas from an infected rat.

(*b*) *Flies.* The list of diseases laid to the door of what Sir Rupert Boyce calls the septic fly is a long one; it includes anthrax, cholera, diarrhoea dysentery, typhoid; leprosy, and consumption.

(*c*) *Mosquitoes.* These insects are the sole agents for the spread of malaria, filariasis, and yellow fever. They also transmit dengue.

(*d*) *Sand flies.* These insects have been shown to convey fevers of short duration.

(*e*) *Ticks.* These pests are the agents for the conveyance of a larger number of diseases in animals. It is also responsible, for relapsing fever.

(*f*) *Lice.* Body lice convey typhus, relapsing and trench fevers.

(5) *Skin.* When the skin is cut, or injured so that the blood comes, wash

the wound well with clean water as soon as possible and cover it with a clean piece of cloth and get the wound dressed antiseptically in a hospital. Remember that tetanus (lock-jaw) is generally caused by wounds which have not been properly dressed from dirty sticks, thorns, sharp stones, etc.

Dear Readers! Please note the foregoing communicable diseases are all preventable if the following sanitary hints are observed :—(1) Protect thyself and thy neighbours from infection.

(2) Admit plenty of fresh air and sunlight into your rooms.

(3) Eat wholesome and well cooked food.

(4) Drink plenty of clean and pure water (heat and filter).

(5) Keep your houses free from flying insects, such as Flies, mosquitoes, fleas, Bugs, Ticks, and Lice.

(6) Flies feed and breed on manure and filth; therefore bury all excreta and refuse or if possible burn them.

(7) Mosquitoes breed in still water, therefore take care that there are no pools or small collections of water near the house. Bury all empty tins, cocoanut shells, and small articles that collect rain. Sleep if possible under a mosquito netting tent at night. Malarial fever is caused by mosquitoes and if there are no mosquitoes there would be no malaria.

(8) Small biting insects creep on ground, therefore keep all floors clean and well swept.

(9) Separate the sick from the rest of the household. Any bedding, clothing or articles used for or by a patient should not be used by another until it has been disinfected and washed.

(10) All disease germs thrive best in dark damp places: therefore keep all floors clean and dry and let in as much light as possible.

(11) Do not walk bare footed in dampy and polluted soils and beware of the helmenthic disease popularly known as Anchylostomiasis (Hookworm disease). The hookworm mostly enters through the pores of the skin. Use a sanitary latrine for call of nature.

THE FUNDAMENTAL RULES OF RATIONAL EATING.

BY

STANLEY LIEF, N.D., D.O., D.C.

Those who have familiarised themselves with the principles regarding the construction of a rational diet, laid down in the previous articles, must recognise that there are certain fundamental rules of eating which, if disregarded, will make the best food valueless and even injurious. There are many people who give attention to diet in the way of selecting the proper foods and combining them rationally, but who disregarded the rules of quantity, mastication and hunger. These people miss most, if not all, of the good results that come from proper feeding. Of what good is the fact that almonds are an excellent food, if one eats them in such a way as to cause indigestion, or eats too many of them?

The following rules should be rigidly obeyed if one desires to obtain the utmost benefit from a rational diet :—

RULE NO. 1.

Never eat without keen hunger being present.—If you have not a keen relish for plain natural food when mealtime comes round, miss the meal entirely, and wait until you become hungry, even if it means missing two or three meals. Food ingested when there is no need and desire for it, is not digested properly, for it ferments and produces the toxins which are the basis of disease. Absolutely nothing other than water should enter the stomach when it is not ready for food; that is, when an actual need for food does not exist.

RULE NO. 2.

Avoid over-eating.—Large numbers of people go to a premature grave because of their habit of eating more than the system requires. No person can expect good results from eating rationally in every other respect, if he persists in supplying his system with more food than it requires for health. The habit of over-eating is responsible for the constant craving for stimulating drinks and tobacco experienced by many, and no person can expect to be really healthy while using these to excess.

RULE NO. 3.

Thoroughly masticate your food.—In practising thorough mastication, you should not allow any food to enter your stomach until you have thoroughly broken it up and reduced it to a pulp by chewing it and moving it around in the mouth. Do not wash down your food with liquids of any kind. Depend upon the saliva to moisten it. Do not hurry over your eating. Hurried eating causes over-eating. Swallowing food quickly, before it is properly prepared in the mouth, gradually develops dilation of the stomach, and in time the mechanism of the whole digestive apparatus will be destroyed.

RULE NO. 4.

Never eat when feeling worried, ill, or "out of sorts."—When you are feeling worried or ill, your digestive apparatus is not in a condition to deal with food. Food eaten under these circumstances lies in the stomach and ferments, and so can cause many different symptoms. Therefore, do not eat until the bad feelings have disappeared. If you have over-eaten at one meal, and you feel uncomfortable when the next meal-time comes round, go without food until the discomfort has disappeared, even if it means missing half a dozen meals.

RULE NO. 5.

Avoid excessive mixing of foods.—Do not eat a great variety of foods at any one meal. The fewer kinds of food taken at a meal the better. Many different foods eaten at the same time produce fermentation, which disturbs digestion and causes many uncomfortable symptoms.—*Health for All.*

WHAT ABOUT ONIONS?

BY

NURSE E. CROOKS.

The onion belongs to a class of foods containing an acrid oil of a strongly irritating character, on which account it cannot be considered a wholesome food when eaten raw. The essential oil is, however, quite volatile so that when cooked its irritating properties are largely removed. The varieties grown in warm climates are much milder and sweeter than those grown in colder countries.

The onion is not high in nutritive value, but it contains a considerable proportion of mineral salts so essential to health and it is very valuable for flavouring purposes. When combined with other foods it considerably enhances their taste.—Good Health.

FASTING FOR HEALTH.

Since the appearance of the first number of 'Health for All,' many thousands have become acquainted with this simple and natural method of curing disease. Hundreds of readers, in all parts of the world, have gained remarkable benefit to their health as a result of abstention from food for short and long periods. We are continually receiving letters from readers testifying to this fact.

But we must here give a word of warning.

Although most people who try this method of cure will unquestionably secure maximum benefit—and there is hardly a person who would not benefit by occasional short fasts, taken without expert guidance—there are a number of cases where the results will be adverse in character unless their fasts are carried out under expert supervision. This especially applies to extremely chronic cases of certain types, where distressing symptoms may arise which can only be dealt with by one who is trained in this method of treatment.

These are the important points that the layman should know about fasting.

1. *Fasting is of the utmost importance in acute disease.* Feeding during acute disease causes more deaths every year than all other diseases put together. In those cases where it does not produce fatal results, it prolongs the complaint and makes it more serious. In acute diseases everyone should, and can, fast until the symptoms have disappeared.

2. *Fasting can be used in chronic disases by most people.* It purifies the blood as no other method does, and a pure bloodstream is the chief requirement in remedying any complaint. It should be remembered, however, as stated before, that it must be used with great care in certain cases of a chronic character.

3. If one's assimilation is very poor, and one's weight and vitality, are already far below the normal, it is as well not to attempt a fast of more than two or three days' duration—just long enough to thoroughly eleanse alimenttary canal of the accumulated debris.

4. *Unusual, and sometimes distressing symptoms arise on a fast, which in themselves may not be productive of harm; but the individual who starts a fast should be acquainted with them.* For instance, a person fasting may develop a very slow or a greatly accelerated pulse. Neither of these signs necessarily indicates danger, if one is familiar with all the details of fasting; but in an inexperienced faster it may cause fear and anxiety, which may be dangerous. *Therefore, if you are going to fast on your own, become acquainted with the subject thoroughly by reading a good book which describes the method in detail.*

5. You must remember that ninety-nine of every hundred medical doctors know nothing of fasting. Therefore, if you are not fully confident of your knowledge to undergo a long fast and deal with the various changes that are liable to appear during your abstinence from food, you should be guided by an expert, or someone who has, at least, been in contact with numerous cases where fasting has been used, and so is familiar with the technique.

6. There is a great deal that should be known in order to break a fast

particularly one of long duration. All the good results of a fast can be undone by wrong feeding at the end of it and it depends entirely on the length of the fast as to how it should be broken. Anyone, therefore, who attempts a long fast should be acquainted with the methods of diet that should follow its termination. It should be remembered as a general rule that the safest diet to follow a fast of any duration is acid fruit only for a day or two, or longer, depending on the duration of the fast.

7. *An intelligent, rational diet, should follow the fast.* The result of a fast will only be temporary unless it is followed by proper feeding habits. The same causes which have produced the illness in the first place will produce it again, even after it has been cleared up by a fast.

Health of a high degree always accompanies a pure bloodstream—the result of fasting and proper feeding.—*Health for All.*

RELATIVE VALUE OF RAW AND HEATED MILK

For the past five years experiments have been carried on at the National Institute of Research in Dairying (Reading, England), to determine the relative value of raw and heated milk. The results show definitely that some dietetic factors are destroyed when milk is sterilized and to a definite but lesser degree when pasteurized. With the methods used, fresh milk was found to be capable of supporting sustained growth and reproduction in rats, while heated milk was no longer capable of doing so.

Experimental animals to the fourth generation were fed on an almost exclusive milk diet, biscuit made from white flour and water being the only addition. It was demonstrated that the raw milk diet is capable of sustaining growth and reproduction of the rats. In fact, a fourth generation was, at the time the report was writtten, as heathly and normal as the first, sterilized milk fed under similar conditions failed to sustain life and reproduction beyond the first generation, except on one occasion when a second generation of very stunted animals was produced. Even the original rats (the first generation) failed in many instances to reach maturity.

The experiments with pasteurized milk also showed results sufficiently marked to indicate that milk heated at a temperature of 145-149° F. for half an hour, has undergone changes which have considerably reduced its dieteic value—*G.H.*

REST PERIODS IN SCHOOLS.

Mr W. G. Savage, C.M.O., includes in his latest annual report to the Somerset education committee a note by Dr. Hilda Halliday on the above subject. Dr. Halliday writes :—"At present no definite instructions are issued and no special equipment is sanctioned for rest periods during school hours. Children for whom a period of real rest seems desirable (i.e., lying down flat with opportunity for sleep) are :—(1) Those under five years of age ; (2) and

over five showing sings of fatigue, such as postural defects, malnutrition, nervousness and lack of control; (3) those coming long distances to school and spending from the dinner hour in the play-ground with no opportunity for relaxation. Certain schools are convinced of the value of rest periods and make use of rush mats, strips of newspaper, low tables with a wool mat for each child's head, or canvas hammock strechers made by local woodwork class. The time set apart varies from ten minutes lying down flat with strenuous attempts at immobility, to a true relaxtion when a child may quite possibly sleep for the whole afternoon. These methods form part of the school routine. In other cases certain children rest during the dinner hour. Teachers in these schools find that a regular rest improves the children's behaviour and teachability. Children seen at medical inspection after a year of routine rests had improved in posture and nutrition. One girls' secondary school has found an after-dinner rest period very good from an educational as well as from a physical stand-point. Other schools would be glad to provide time for rests, but have not the floor space. A few schools are not aware of the value of a quiet self-disciplined rest period, or they are afraid that book-work will suffer, or they allow tired children to rest and fall asleep leaning over their desks with head on arms. For the sake of children in such schools it might be useful to issue advice as to the selection of children for rests, the equipment and the time to be allotted. I have discussed this matter with the other school inspectors who report somewhat similar findings. The need for rest for these selected children is undeniable and it is of importance that it should be under satisfactory conditions. The chief essential is that the body should be out flat and anything like a hammock or stretcher which sags is unsatisfactory."

ICE-CREAM DANGERS.

WRITING in the Sunderland edition of *Better Health*, Dr. A. S. Hebblethwaite, M.O.H., has published a useful warning to ice-cream manufacturers, vendors, and their customers. Dr. Hebblethwaite states that it is important that ice-cream should not contain dirt and bacteria of a harmful nature. "I have examined in this town ice-cream containing more than 30,000,000 of bacteria in a lump not as large as a piece of sugar. We have still with us the objectionable barrow and its ice-cream container, with its lid off many times during the day, exposing its contents to the heat and dust which blows at every street corner. The day of the penny glasses, licked by hundreds in twelve hours, has vanished. The barrow with its open container should follow. Ice-cream should be sold only from the premises upon which it has been made, and if it is sold in the streets should be sold in exactly the condition of cleanliness when manufactured, and should not be exposed to unnecessary contamination." Dr. Hebblethwaite commends the present method of selling small ice-

bricks, wrapped in grease-proof paper, or selling ice-cream in covered paper cartons. This, he says, removes the objection of exposing ice-cream to contamination during the process of making sandwiches in the open streets.—*The Medical Officer.*

THE PREMATURE AND DELICATE BABY.

"With regard to the premature baby, all the precautions which had been advised for normal babies must be observed even more rigorously. Sometimes an incubator is required to maintain the normal temperature, but if such an apparatus is employed, it must not be one of the old-fashioned type with closed walls, but should be an open one, so that the infant, although it is kept warm by artificial means, is able to breathe air of room temperature, and benefit by its stimulating influence.

Although the general practice is to feed premature infants at very frequent intervals—sometimes hourly—I strongly advice the adoption of three-hourly feeding even in the case of the most premature infants. Such infants digest slowly and absorb slowly, and therefore should not be required to commence the succeeding meal before they have finished the first. The great necessity in the case of premature infants is to keep them warm, since this reduces the necessity for food or fuel.

The special dangers to which premature infants are liable, over and above those connected with feeding and loss of heat, are those which are concerned with infection. Premature infants are very badly provided with the mechanisms of defence against infection. Every precaution should, therefore, be taken to prevent exposure to such sources of danger."—*Dr. Eric Pritchard M.A.M.D.F.R.C.P. in the Medical Officer.*

THE USE OF ORANGE JUICE MILK IN INFANT FEEDING

The use of acidified milk has held an important place in infant feeding in recent years. Dr. Julius Hess and his co-workers have ably demonstrated the vaule of orange juice added to milk, in that it modified peptic digestion and increased the amount of soluble proteins.

In preparation of orange juice milk one ounce of strained orange juice is used to each sixteen ounces of milk. In comparing two hundred cases in private practice fed on orange juice milk with an equal number fed with other forms of mixtures the author has found that the infants on the orange juice milk mixture required fewer adjustments of the formula, have an average greater gain in weight per month and are less troubled with intestinal upsets. At certain periods of the year when oranges are more sour it may be necessary to diminish the proportion of orange juice to avoid excessive flatualence and occasional loose stools. Raw egg yolk may be added to orange juice milk after the first few weeks of life, starting with one-tenth to one-eighth of a yolk and gradually increasing the amount so that a

whole egg yolk is given at the end of the second month.—KING GRIER WOODWARD, M.D., *Ill. Med. Jour.*, *March*, 1930.

HOW TO REST THE EYES.

Eyes become tired for one of two reasons—either they are overworked, or there is something wrong with the mechanism of the eye—something that prevents perfect adjustment of the two eyes.

Eye-tire is one of the most common causes of headache—some oculistis go so far, indeed, as to regard it as practically the only cause. Be that as it may prompt relief of eye-tire will be found to be one of the surest ways of preventing headache.

Eye-tire due simply to over-use should have rest as the first means of relief. Bathing the eyes in hot water is also good.

Sometimes the eyes are inflamed and there is considerable pain. Hot or cold compresses are best in these conditions.

A compress for this purpose may be made by taking four or five thicknesses of gauze, or a single thickness of cotton of a size to easily cover the eyes. A compress thicker than that indicated will retain the heat and thus undo the beneficial effects of the cold.

Wet the compress in cold water, then lay across the forehead and press down upon the closed eyes. Leave this application in place until it becomes warm or not longer than five minutes, then quickly wet again and apply as before. A good way is to have two or three compresses and cool by laying across a block of ice.

In applying heat to the eyes, the temperature of the water in which the compress is dipped could be at least 130.° The compress should be made smooth by rolling with a tumbler and should be lightly touched to the eyelids and adjacent skin, then quickly withdrawn. The touching is rapidly repeated, the compress being reheated as necessary, for five minutes. A good plan for heating the compress is to heat it with an electric iron, this is a most excellent means of relieving the aching of the eyelids due to long use or a poor light, and to remove black circles round the eyes and swollen lids.

If there is a tendency of the eyes to tire easily, their use should be surrounded with the best possible conditions. Reflections from glass desk tops make for eye fatigue, as also from mirrors and even framed pictures on which one's eyes are apt to fall frequently.

The best top for a desk is just blotter preferably green. Blotter gives no reflections to tire the eyes, while green is known to be the most restful of all colours.

Also the desk should be so situated that the light reaches the desk from the left side—or from the right side in the case of left-handed folks, where the shadows that fall on the desk are deep enough to keep pen or pencil in the shade.

Also it will be well to bathe the eyes often during the day in hot water—cool water will do, provided hot water is not available.

Then there is the other kind of eye tire—that which comes from weakness of the muscles that control the eye mechanism. Sometimes there is refraction in one or both eyes, of such a nature that the delicate muscle within the eye which adjusts the lens is kept constantly at work in correcting or attempting to correct the existing defect, and thus overworks and congests the eye and so becomes a source of local and even general disturbance.

Another cause is want of balance between the muscles which control the movements of the eye-ball. Each eye

makes an independent image of the object looked at. For perfect vision it is necessary that these two images should be fused in one. This is accomplished automatically by the nerve centers which control the movements of the eye in vision.

It will be readily seen that the instantaneous adjustment of the muscles of the eye to produce perfect vision at the constantly varying distances at which objects are recognized, is one of the most delicate and finely balanced of all the muscular activities of the body. The disturbance of this eye-balancing function gives rise to eye-tire.

In these and similar types of eye-tire what one needs is attention by an eye specialist who will make proper examinations and prescribe glasses that will correct the defects that he finds. Do not go to the first practitioner you come to, just because he is convenient, but make sure you have found the most competent man who is available.—*Good Health.*

REVIEWS.

More from the Primeval Forest:—By Albert Schweitzer. Pp. 173+16 pages of illustrations from photographs. Translated by C. T. Campion M. A. Published by Messrs. A. & C. Black Ltd., 4, 5 & 6 Soho Sq., London, Price 6/- net.

This book is a fine record of humanitarian work done by the author in his capacity as a medical man among the primitive peoples of Lambarene, on the banks of Ogome, in equatorial Africa. He had built a hospital there and took up the work of healing the sick natives, whom he has learned to love so intensely. The book clearly demonstrates how love can win the hearts of even the primitive races of Africa, and that Medical Men have contributed more to world conquest than even soldiers and sailors. The book will be found appealing to medical profession and the lay-public alike.

Everybody's Trouble.—By Reddie Mallett, Published by Messrs. C. A. Watts & Co., Ltd., No. 5 & 6, Johnson's Court, Fleet St., London E. C. 4, Pricc 1/- net.

The title of this book is indeed attractive and the author cannot have chosen a better expression to describe that universal ailment called 'constipation' than what he has done. 'Constipation is a curse of civilisation', so says the author, and 'Convention has no cure for constipation.' 'The cure for constipation is no problem,' continues the author, 'it is as easy as the alphabet ; it is as certain as the rising sun. It is purchasable for a shilling the cost of this little book that you now read. Its demand is merely that you make a few concessions to the plea of common sense. It only asks slight re-adjustments. of your habits and your tastes ?." The chapters on dietaries add considerably to the value of the book. The book is certainly interesting reading and will amply repay perusal.

Diet of Indians:—Published by J. C. Basak, 363, Upper Chitpur Road, Calcutta, 1st Edition, Price 8 as.

This little book meets a longfelt want. There are many in India who are anxious to know what foods would suit them best and what foods should be shunned to keep them healthy and strong and this booklet supplies the necessary information. The compiler has taken immense pains to avoid technicalities as much as possible and has given Hindi equivalents to the English names of the various foodstuffs, used by the Indians. The chapter on "Diet in Diseases" will be really helpful to invalids. The booklet deserves to be in the hands of of every Indian, who wants to know anything about Indian Dietary.